Illinois Environmental Protection Agency
Division of Land Pollution Control

RCRA INSPECTION REPORT

USEPA #: IL D098642424	IEPA #: 1631210009
Facility Name: Chemical Waste TWI	Phone #: 618/271-2804
Street Address: #7 Mobile Avenue	County: St. Clair
City: Sauget	State: Illinois Zip: 62201
Region: Southern	Inspection Date: 02 [illegible] 92 From: ~1:30 To: 3:30
Weather:	

TYPE OF FACILITY

Notified As: 6/TSD/B1B	Regulated As: 6/TS
LDF? No (Yes or No) HPV? NO	90-Day F/U Required?: YES ~~NO~~ See Remarks

TYPE OF INSPECTION

CEI: X Sampling: ____ Citizen Complaint: ____ Closed: ____ Other: ____

CME/O&M: ____ Record Review: ____ Follow-Up to Inspection of: ____ Withdrawal: ____

NON-REGULATED STATUS

SQG: ____ Claimed Nonhandler: ____ Other (Specify in Narrative): ____

PART A

1/18/80

Notification Date: 01/28/86, from (initial) or (subsequent) Notification.

Initial Part A Date: 11/18/80 Amended: 09/27/90 TCP

Part A Withdrawal requested: ___/___/___ Approved by (US)(IL) EPA: ___/___/___

PART B PERMIT APPLICATION

Part B Permit Submitted: (Y) or N 04/15/87 Final Permit Issued: 03/31/89

ENFORCEMENT

3-2 See Exit at 2/91 Inspection

Has the firm been referred to -- USEPA: (Y) or N ___/___/___

Illinois Attorney General: Y or N ___/___/___ County State's Attorney: Y or N ___/___/___

ORDERS ISSUED

CACO: 05/16/91 CAFO: ___/___/___ Consent Decree: 12/23/91

Federal Court Order: ___/___/___ State Court Order: ___/___/___ IPCB Order: ___/___/___

TSD FACILITY ACTIVITY SUMMARY

Activity by Process Code	On Part A?	Activity Conducted Prior to 1980?	Was Activity Ever Done?	Closed	Being done at Time of Insp.?	Exempt per 35 IAC, Sec.	On Annual Report 1988	1989	1990
T03	Yes	Yes	N/A	No.	Yes	No	Yes	Yes	Yes
T04	Yes	Yes	N/A	No	Yes	No	Yes	Yes	Yes
S01	Yes	Yes	N/A	No	Yes	No.	No	Yes	Yes
S02	Yes	Yes	N/A	No	Yes	No	No.	Yes	Yes
						RECEIVED			
						27 MAR 1992			
						IEPA/DLPC			

SCREENED BF

OWNER		OPERATOR	
Name	Chemical Waste Management	Name	Same As Owner
Address	3003 Butterfield Road	Address	
City	Oak Brook	City	
State	Illinois Zip 60521	State	Zip
Phone #	705/654-8800	Phone #	

PERSON(S) INTERVIEWED	TITLE	PHONE #
Dennis Warchol	Permitting & Regulatory Affairs Mgr	618/271-2804

INSPECTION PARTICIPANT(S)	AGENCY/TITLE	PHONE #
Mark Schuster	IEPA/DAPC - EPE	618/346-5120
Chris Calvansky	IEPA/DLPC - EPS	618/346-5120
Mike Grant	IEPA/DLPC - EPS	618/346-5120

PREPARED BY	AGENCY/TITLE	PHONE #
Michael D. Grant	IEPA/EPS	618/346-5120

SUMMARY OF APPARENT VIOLATIONS

Area	Class	Section

Area	Class	Section

Area	Class	Section

005453

Facility Name: CWM-Trade Waste Incineration

USEPA #: IL D098642424

IEPA #: 1631210009

WASTE DISPOSITION FORM

Waste Name (include haz & waste for which no determination has been made)	Generating Process (For waste gen. on site. N/A for TSD)	Date of Last Analysis	USEPA Haz Waste #	* On 8700-12	* On 3510-3	On Annual Report for: (Circle if present; cross out if not present) * 19 88	* 19 89	* 19 90	Amount on Site As of 2/24/92	Rate of Generation	Last Manifested Shipment	Disposition
Incinerator Ash	Incineration	1/7/92	Listed + D006 D008	Yes	Yes	G F	G F	G F	115 Roll-offs	~5 Roll-offs a day	2/17/92	CWM-Emelle Al. Also shipped to CID & Adams Center
WWT Sludge	WWT Sludge from Incinerator #1	Included with Ash	D006 D007	Yes	Yes	G F	G F	G F	"0"	Included with Ash & Returned to #4	N/A	Returned to Incinerator #4
Dry Scrubber Solids	Baghouse Dust from Incin #s 2,3+4	1/7/92	D008 Listed	Yes	Yes	G F	G F	G F	* See Below	~4 Trailers a day	2/20/92	CID Also shipped to Emelle, & Adams Center
Site Debris	Scrap metal, Refractory Brick	Listed	F001-F005 Listed	Yes	Yes	G F	G F	G F	1 Roll-off	Varies	2/21/92	Adams Center Ft. Wayne, Indiana
						G F	G F	G F				
						G F	G F	G F		* 14 Pneumatic Trailers 26 Vans 4 Roll-offs		
						G F	G F	G F				
						G F	G F	G F				
						G F	G F	G F				
						G F	G F	G F				

* All "NO" responses must be explained in narrative.

1631210009 - St. Clair County
Sauget/TWI
ILD098642424

REMARKS

Trade Waste Incineration in Sauget, Illinois is an incinerator of hazardous, non-hazardous, and hospital waste. The facility received their Part B permit on March 31, 1988. The facility is permitted for storage in containers (S01) and tanks (S02), and treatment via incineration (T03) and other (T04) (i.e., drum decanting and repackaging). There are currently four incinerators at the facility. Units #1, #2 and #3 are fixed hearth incinerators and Unit #4 is a rotary kiln. Only Unit #1 utilizes a wet scrubber system while the other three units are equipped with dry scrubber systems.

Incinerator #1 is permitted to operate with a maximum combined thermal input of waste and fuel at a rate of 14 million Btu/hr. This incinerator utilizes a wet scrubber system. The system includes a prequench venturi scrubber, cyclone separator, induced draft fan, expansion tank/demister and stack. It also includes a water recirculation tank, pumps, pH control equipment, and a blowdown water treatment plant (the water treatment plant is a non-regulated unit). Secondary containment as required in the Part B Permit for the scrubber water tank has been provided.

Incinerator #1 has two specialty feeders connected to it. They are the 4-NDPA residue feeder and the Aerosol Can Processing Unit. The Aerosol Can Processing Unit pierces, evacuates the contents of the cans, and crushes them. The contents are separated, gases from liquids; the gases are sent to Incinerator #1, and the liquids are pumped to a tank to be stored in the tank farm until incineration. The crushed cans are sent to a hazardous waste landfill.

The 4-NDPA residue is a mixture of aromatic amines, aromatic ether, tars, and carbon. The residue is a non-hazardous waste from Monsanto and is burned on a continuous basis to utilize its fuel valve (11,800 Btu/lb). The feed system charges the residue directly from the delivery trailers into the incinerator. The average flow is 19-22 gal/hr. Monsanto provides approximately 600 gallons of this waste per day to TWI.

Incinerators #2 and #3 are of the same type as #1. They are permitted to operate at an input rate of 16 million Btu/hr. Incinerator #3 is currently operating under post trial burn conditions. Both incinerators utilize a dry scrubber system. The system includes a batch lime preparation system, spray dryer absorber, fabric filter, and an ash conveying system. Both incinerators #2 and #3 are computer automated and are operated through the use of a keyboard and terminal.

Unit #4's trial burn was completed in December of 1989, however it was never approved by the Agency. The unit is now operating with the conditions set forth in the December 23, 1991 Consent Decree (CD). (Specifics regarding the CD will be discussed later). Prior to that, the unit was operating with the post trial burn conditions set forth in the Part B permit. Unit #4 has a heat release capability of 50 million Btu/hr. Associated with Unit #4 is a bulk storage building which houses four bins. These bins contain contaminated soil which is fed into the kiln via a clamshell bucket operated on a tram.

As a result of their operations, the facility generates the following wastes.

Wastewater treatment sludge (D008, D009, D006, D007) and incinerator ash (D008) are generated by Incinerator #1. The wastewater treatment sludge is generated by the wet scrubber system. Incinerators #2, #3 and #4 generate incinerator ash (D008) and dry scrubber solids (D008). The incinerator ash is stored in 20 yd^3 roll-off boxes. During this inspection, all roll-off boxes were properly labeled, dated and covered. The wastewater treatment sludge is added to the ash roll-offs. The dry scrubber solids are collected in a 5000 gallon tanker trailer and 2 cy metal containers. Due to the land disposal restrictions, the ash generated from Incinerators 1, 2, and 3 and the wastewater treatment sludge from #1 is all reburned in #4. These residues are placed in the bulk pits and fed to #4 via a clamshell.

Other waste streams include the following: spent carbon, incinerator refractory, scrap metal and debris. Spent carbon is also reburned in the #4 incinerator. Refractory brick, scrap metal/debris is shipped to the Adams Center landfill in Indiana.

The facility has changed their procedures for handling their ash and baghouse dust because of the Land Disposal Restrictions (LDR). The facility's waste analysis plan was last revised on January 2, 1992 as a result of the CD. In the past, the facility tracked all of the waste codes burned which generated ash/baghouse dust and assigned those specific codes to each ash roll-off and baghouse dust container. Specific carry-over time frames were used to ensure all associated codes, i.e., codes for liquids in tanks, were carried over for 30 days.

The facility now assigns all waste codes which they are permitted to receive to every generated residual. This procedure assumes that the ash contains all the waste codes, with the exception of those codes TWI will not/cannot accept. (See attached list of codes TWI will not accept). These wastes are analyzed quarterly for compliance with the treatment standards for the organic constituents. Since TWI ceased stabilization of their waste on-site in March of 1991, the wastes are sent to the disposal facilities for stabilization prior to disposal. Stabilization is conducted to ensure the inorganic treatment parameters are met.

One exception to the above LDR procedure exists. It has to deal with the cyanide standard for the refinery waste codes (K048-K052). The cyanide standard for these codes is a lower standard. The treatment standard for non-wastewater for the K048, K049, K051, and K052 is 1.8 ppm. Because of the lower standard, these codes are tracked and cyanide screens are conducted on all outgoing loads. All roll-offs which contain these refinery codes and fail the 1.8 ppm standard are currently being stored on-site. The CWM in Lake Charles, Louisiana is running treatability studies for this waste.

The December 23, 1991 Consent Decree (CD) established new parameters and waste feed cut-offs for the four incinerators. These changes were to be phased into place. Unit #4 changes became effective January 22, 1992 (30 days after entry of the CD). Units #2 and #3 are to be implemented by March 22, 1992. Unit #1 implementation is due by April 25, 1992. Since the parameters for Units #1, #2, and #3 were yet to be implemented, we focused our inspection on Unit #4. One of the situations involves the differences between the CD operating parameters and those contained in the Part B permit. The following parameters contained in the Part B permit are not contained as operating parameters in the CD:

1. Oxygen concentration in the stack gas, measured as specified in Section VI.b.D.4 shall be greater than 3.5%.

2. Hydrocarbon concentration in the stack gas, measured as specified in Section VI.b.D.4., shall be less than 85 ppm as methane.

3. The spray dryer absorbers exit temperature shall not exceed 500^{0} F.

4. Pressure drop across the baghouse, measured a specified in Section VI.b.D.4, shall be maintained at no less than 2 inches w.c. and no greater than 9 inches w.c.

5. The Permittee shall control fugitive emissions from the combustion zone of the incinerator by operating the kiln and SCC at less than atmospheric pressure.

It is TWI's interpretation that the CD parameters replace all of the operating parameters of the Part B permit. The Agency views the CD parameters as only replacing/revising those parameters specifically mentioned in the Part B permit. The same situation also exists with the automatic waste feed cut-offs. However, TWI has left all of the Part B permit waste feed cut-offs in place even if they were not listed in the CD. This difference in interpretation will be discussed in a future meeting with the facility, and may result in the identification of apparent violations.

There were six exceedances of the CD operating parameters which occurred from January 22, 1992 through February 17, 1992. These will be discussed chronologically.

1. & 2. January 24, 1992 - The kiln temperature and Secondary Combustion Chamber temperature fell below 1350^{0} and 1800^{0}, respectively. This was caused by erroneous Btu data being reported to the computer for the natural gas burner. The system was reporting double the Btu value for natural gas (from 16:00 - 16:45). As a result, the wastefeeds were shut down at 16:52. At 16:57, the natural gas burners were shut down. As a result, the system shut down all feeds to prevent a Btu limit excursion. As a result, the temperature in the kiln and SCC fell below the operating limits during this period.

3. & 4. January 30, 1992 - Unit #4 exceeded the CD parameters for stack flow and low Secondary Combustion Chamber (SCC) temperature. At 05:19, the SCC burner failed. When the SCC burner fails, the incinerator went into a purge cycle (by design) before the burner is re-lit. As a result, the purge flooded the SCC with air causing a drop in temperature and an excessive stack flow. As 05:21, the stack gas flow was 46,000 ACFM (rounded to the nearest one-thousandth). At 05:22, the SCC temperature fell to 1777° and was not brought back above 1800° until 05:29. The burner was re-lit at 05:24.

5. January 31, 992 - (One exceedance) - Unit #4 experienced an HCL exceedance of the 35 ppm for any 60 minute rolling average. This exceedance was caused by low lime slurry density. A probe density malfunction caused low density in the lime slurry which is used to knock out HCL in the Spray Dryer Absorber. The waste feeds were shut down from 20:13 to 21:09 on January 31, 1992 due to the HCL exceedance.

6. February 15, 1992 - (One exceedance) - The kiln temperature fell below 1350° as a result of the kiln burner failing. The temperature fell below 1350° at 04:33 and remained below 1350° until 4:53. It was determined that a blown fuse prevented the operator from being able to get the burner re-lit before the temperature fell below 1350°. Once the fuse was replaced, the burner was re-lit.

These exceedances may be violations of the Consent Decree. These exceedances will be discussed with the facility in an upcoming meeting to see if any further action will be taken by the Agency. During this meeting, on-line data and strip charts will be inspected and reviewed.

It should be noted that when TWI revised the parameters on #4, they also set warning points for the waste feed cut-off parameters. The warning points/parameters are set outside the waste feed cut-off limit and give the operator an audible alarm, which he must acknowledge. This allows the operator an opportunity to react and make necessary adjustments to possibly prevent an automatic waste feed shut down. In the event a waste feed shutdown does occur, the feeds cannot be restarted until the unit is outside the warning parameter. For example, the Secondary Combustion Chamber low temperature is 1800°, the warning point is set at 1850°. This alarm would tell the operator that the SCC temperature is dropping and allows him to react.

Another condition of the Consent Decree is that Units #1, #2 or #3, and #4 all have to run trial burns. Unit #4 is scheduled to be first. The trial burn plan was submitted on February 6, 1992. TWI is to submit a trial burn plan to the Agency for Unit #2 or #3 within 30 days of the date the Agency approves or disapproves the trial burn for Unit #4. Since Units #2 and #3 are indentical with similar control equipment, the Consent Decree allows TWI the option to test #2 or #3. Unit #1's trial burn plan is due 15 days after the approval or disapproval of the Unit #2 or #3 trial burn.

Many of the issues dealing with exceedances on Units #1, #2 and #3 continue. However, these issues were not addressed during this inspection because they are addressed in the Consent Decree. A compliance schedule is established for implementing new/revised operating parameters, which TWI will be required to operate by, until the Trial Burns are approved or disapproved. The implementation of these schedules was previously discussed.

MDG:cas/0618L
Attachment

TABLE I.

(1/15/92)

UNACCEPTABLE WASTE CODES AT TWI

I. Part B Restriction (Sec. VIII)

-F020, F021, F022, F023, F026, F027, F028
-K001
-P009, P031, P033, P056, P063, P095, P096 (all in gaseous form)
-U075, U121, U134 (gas), U225
-Radioactives/Mixed Wastes
-≥ 50 ppm PCB Waste
-D003 (Class A explosive)

II. Part A Restriction

-D017 (TC waste), D037
-F037, F038
-K107, K108, K109, K110, K118

III. Treatment Standards (Specified Technologies)

Waste Codes/Subcategory (Specified Technology)

-D006 Cadmium Batteries (RTHRM)
-D008 Lead Acid Batteries (RLEAD)
-D009 High Mercury and Inorganic, Including Incinerator Ash, and the residues from RMERC Treatment (RMERC)
-K061 High Zinc (STABL or HMTR is the BDAT)
-K069 Non-calcium Sulfate (RLEAD)
-K106 High Mercury (RMERC)
-P065 High Mercury, incinerator residues or RMERC residues (RMERC)
(NWW/WW)-P076 Nitric Oxide (ADGAS)
(NWW/WW)-P078 Nitrogen Dioxide (ADGAS)
-P092 High Mercury, Incin. Residues or RMERC residues (RMERC)
-U151 High Mercury (RMERC)

IV. Low Treatment Standards

-D017 (EP Tox)[1]
-F010, F024, F025
-K011, K013, K014, K021, K022, K028, K043, K060, K085, K087, K099, K104

V. The following waste codes can only be accepted and incinerated in Appendix IV lab packs.

-P015 (NWW/WW), P087 (NWW, WW), P113, P115, P119, P120
-U214, U215, U216, U217

1 or [1] = Must be stored at a TSD in Texas

Note: Section III. only cites the treatment standards for Non-Wastewater, unless otherwise noted.

Note: Section V. only applies to the Non-Wastewater treatability groups, unless otherwise noted.